INSIDE THE BOX

Team works through challenges to deliver 'flexibility' on time

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243rd Engineering Installation Squadron

SOUTH PORTLAND, Maine — Three members of the 243rd Engineering Installation Squadron spent their AEF deployment thinking and working inside the box.

It wasn't the "sand box" as the U.S. Central Command Air Forces' area of responsibility is sometimes referred. No, this project was completed at Shaw AFB, S.C., and the box is the S-280 electronic communications shelter.

The team converted 22 bare shelters into Information Transfer Nodes that provide high-capacity voice, data and video network backbones at expeditionary bases throughout the CENTAF theater.

The project began in August with a call from the CENTAF Engineering Installation Program Management office asking if the 243rd could design and build the ITNs. Tech. Sgts. Frank Wilson and Dana Parson, who had previously built a number of larger ITNs here, immediately jumped on the project.

THE CHALLENGE

The team confronted challenges from the beginning. One of the biggest challenges was to design a shelter that carried half the footprint of the original design. Also, the newer shelters had no power, lights or environmental control unit connections. These obstacles were easy enough to overcome, but it was the final request that threw the team right into the pressure cooker: **CENTAF needed to deliver the first shipment of ITNs to Iraq in less than 120 days.**

To save time, the team contracted with a local Maine fabrication shop to build cable entry, air conditioning, and tactical power ports and shipped them to Shaw AFB for installation in the bare shelters. The work consisted of cutting the shelter skin and installing the ports followed by the installation of equipment racks, lighting, grounding and internal power distribution.

Each shelter was provisioned with a 100 amp, three-phase, 50/60 hertz electrical service to accept power from a variety of tactical generators. Four equipment racks and large backboards along two walls provide ample room for fiber and copper cable terminations as well as switches, uninterruptible power supplies and other transmission equipment.

The team realized these shelters could end up in almost any type of environment. From the most austere conditions to an established frontline base, they knew the design must be adaptable to any environment.

"The transportable ITNs were designed and built for maximum flexibility," said Master Sgt. Larry Rideout, the electrician on the project.

"To go from concept to initial delivery in 100 days was a huge success," said James Trout, the CENTAF Project Manager. **"We couldn't have done it without the talent and dedication of the team."** He said that the design/build effort saved the Air Force more than $710,000 compared to cost of contracting the project.

Of the 22 ITNs built, 17 went to the Air Force and five were transferred to the U.S. Marine Corps to meet its expeditionary communications requirements in Iraq. The last seven shelters were built specifically to house Radio Internet Protocol Routed Network equipment. RIPRNET is a new air-ground-air radio network being fielded by CENTAF to provide remote command and control capability throughout the theater.

HISTORICALLY SPEAKING

The transportable communications shelter concept isn't new. Back in 2002 and 2003, the E&I community was involved in the design and build of the Combined Air Operations Center at Al Udeid AB, Qatar, using 29 deployable shelters to house the CAOC and Intelligence Surveillance Reconnaissance Division network and command and control systems.

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READABILITY BASED ON FLESH-KINCAID SCORES

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To keep pace with changing technologies the military must continue to explore new ways of conducting business.

JARGON WATCH

- **CENTAF:** U.S. Central Command Air Forces
- **ITN:** Information Transfer Nodes
- **RIPRNET:** Radio Internet Protocol Routed Network
- **CAOC:** Combined Air Operations Center